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ABSTRACT

Determining how to monitor and enhance school effectiveness is one of the major concerns in current education reforms in different areas of the world. This paper describes the existing conceptual and practical possibilities and dilemmas in developing a framework for monitoring school effectiveness. The paper identifies the different types of school effectiveness, which include technical/economic, human/social, political, cultural, and educational effectiveness at a variety of different levels--individual, institutional, community, societal, and international. The paper describes the eight management models for school effectiveness (the goal model, system-input model, process model, satisfaction model, legitimacy model, ineffectiveness model, organizational learning model, and total-quality-management model). Depending on the types of school effectiveness and the models of school management, various conceptual possibilities and dilemmas exist in monitoring school effectiveness. The paradigm for monitoring should therefore be shifted from a simplistic conception to a multi-type and multi-model conception. The paper proposes a matrix based on the choice of indicators, the purpose of assessment, and the type of evaluation. It also identifies practical dilemmas involved in monitoring school effectiveness: (1) balancing between internal development and external accountability; (2) balancing between school self-evaluation and external evaluation; (3) choosing an appropriate combination of indicators; (4) deciding who selects the effectiveness indicators and performance standards; and (5) managing the differences between the school-site level and the system level. Three tables and three figures are included. (Contains 60 references.) (LMI)

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Monitoring School Effectiveness: Conceptual and Practical Possibilities and Dilemmas in Developing A Framework

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(abstract)

How to monitor and enhance school effectiveness is one of the major concerns in current education reforms in different areas of the world. From the advances in school effectiveness research, this paper aims to illustrate the existing conceptual and practical possibilities and dilemmas in developing a framework for monitoring school effectiveness.

From the multiplicity of school functions in the new century, there may be different types of school effectiveness including technical/economic, human/social, political, cultural, and educational effectiveness at the individual, institutions, community, society, and international levels. There are also eight management models for school effectiveness (including the goal model, system-input model, process model, satisfaction model, legitimacy model, ineffectiveness model, organizational learning model and total quality management model) and therefore their cognate indicators for monitoring are different. According to the types of school effectiveness and the models of school management, various conceptual possibilities and dilemmas may exist in monitoring school effectiveness. The paradigm for monitoring should be shifted from the simplistic conception to a multi-type and multi-model conception.

Based on the choice of indicators, the purpose of monitoring, and the type of evaluation, the paper further proposes a matrix for exploring the critical practical issues, dilemmas, and possibilities in monitoring school effectiveness. Implications are drawn from these conceptual and practical possibilities and dilemmas for developing a framework for monitoring school effectiveness at different levels. Hopefully, they can benefit the current educational reforms in the Region and other parts of the world.

Introduction

Various types of education reforms had started all over the world since the eighties, and have become important trends in the nineties. The major reform directions include implementing school-based management, establishing systems for quality assurance and accountability, emphasizing the application of strategic management and development planning, identifying and promoting characteristics of effective schools, and applying total quality management in schools (Caldwell & Spinks, 1988, 1992; Cheng, 1996; Dempster, Sachs, Distant, Logan & Tom, 1993; Greenwood & Gaunt, 1994; Hargreaves & Hopkins, 1991; Mortimore, 1993; Murgatroyd & Morgan, 1993; Murphy & Beck, 1995; Scheerens, 1992). Among the reform activities, how to monitor and enhance school effectiveness for improving education quality has always been the core issue. The aim of this paper is to illustrate the existing conceptual and practical possibilities and dilemmas in developing a framework for monitoring school effectiveness. It is hoped that the discussion and implications can contribute to enhancement of school effectiveness and implementation of educational reforms.

Conceptual Possibilities & Dilemmas: From Multiple School Functions

To different people, the definition of school effectiveness may be very different. Also, school effectiveness is often confused with the term "school efficiency". The critical elements of effectiveness conceptualization such as "what criteria", "whose criteria", "effective for whom", "who to define", "how to evaluate", "when to evaluate", and "under what environmental constraints" are often problematic because there seems no standard elements accepted by all concerned constituencies for evaluation (Cheng, 1993a). Particularly, a school is an organization in a changing and complicated social context, bounded with limited resources and involving multiple constituencies such as education authorities, school administrators, teachers, students, parents, taxpayers, educators, and the public. Therefore the people concerned have different interpretations on school functions and goals: some regard the short-term effects as important, the others emphasize the long-term function; some stress the function on social integration, the others pay attention to personal growth. In such a social context, understanding school effectiveness is quite difficult without discussing about school functions. To different functions or goals, schools may have different performance and effectiveness. For example, some schools may be good at helping students' personal development but some may be excellent in producing competent technicians for the needs of the community. Therefore, it is necessary to clarify the aims and functions of schools before we can discuss what is school effectiveness and how to evaluate and monitor it.

Multiple School Effectiveness

Cheng (1996a) provided a comprehensive analysis of multiplicity of school functions. From the education aims of schools in USA and Hong Kong (Averch etal., 1974; The National Education Goals Panel, 1992; Education & Manpower Branch, 1993), school are expected to have multi functions involving individual, institutional, community, national and international levels. In addition to education of students, schools serve other implicit or explicit functions at different levels in the society according to both Functionalism or the Conflict Theory in sociology (Blackledge & Hunt, 1985; Cheng, 1995b). For example,

Functionalism suggests that school education can facilitate social mobility and social change but the Conflict Theory argues that school education reproduces class structure and maintains class inequality at the society level. Based on the commonly espoused education goals, organizational studies and development studies (e.g., Bolman & Deal, 1991; Cameron & Whetten, 1981, 1983; Cheng, 1993a; Blackledge & Hunt, 1985; Beare & Slaughter, 1993; Cheng, 1995b), Cheng (1996a) classify the potential school functions into five types: *technical/economic functions, human/social functions, political functions, cultural functions,* and *educational functions*. Accordingly, there are five types of school effectiveness, depending on the extent to which schools can perform these functions at different levels, as shown in Table 1.

Technical/Economic School Effectiveness. It refers to the extent to which the school can contribute to the technical or economic developments and needs of the individual, the institution, the local community, the society, and the international community. At the individual level, effective schools can help students to acquire knowledge and skills necessary to survive and compete in a modern society or a competitive economy, and provide staff job training and opportunity. At the institutional level, effective schools are service organizations providing quality service; also they serve as a life place or work place of society for clients, employers and all those concerned. At the community and society levels, effective schools serve the economic or instrumental needs of the local community, supply quality labor forces to the economic system, modify or shape economic behaviors of students (future customers and citizens) (McMahon, 1987), and contribute to the development and stability of the manpower structure of the economy (Hinchilffe, 1987). At the international level, effective school education supplies the high quality forces necessary in international competitions, economic cooperation, earth protection, and technology and information exchange.

Human/Social School Effectiveness. It refers to the extent to which the school can contribute to human developments and social relationships at different levels of the society. As indicated in nearly all formal education goals, at the individual level effective schools help students to develop themselves psychologically, socially, and physically, and help them develop their potential as fully as possible. At the institutional level, a school is a social entity or social system composed of different human relationships. The quality of social climate and relationships in it often determines the quality of work life and learning life for teachers and students. Therefore an effective school can provide an environment of quality. At the community and society levels, according to the perspective of Functionalism effective schools serve the social needs or functions of the local community, support social integration of multiple and diverse constituencies of society, facilitate social mobility within the existing class structure, reinforce social equality for all people of different backgrounds, select and allocate competent people to appropriate roles and positions, and contribute to social change and development in the long run (Cheng, 1995b). Due to the growing global consciousness (Beare & Slaughter, 1993), effective schools are expected to play an important role in preparing students for international harmony, social cooperation, global human relationship, and elimination of national, regional, racial, and gender biases at the international level such that both the local community and the international community can benefit in the long run.

Political School Effectiveness. It refers to the extent to which the school can contribute to the political developments at different levels of society. At the individual level, effective schools can help students to develop positive civic attitudes and skills to exercise the rights and responsibilities of citizenship. At the institutional level, effective schools act as

a place for systematically socializing students into a set of political norms, values and beliefs, or for critically discussing and reflecting on the existing political events. An effective school often become a political coalition of teachers, parents, and students that can contribute to the stability of the political power structure. At the community and society levels, effective schools play an important role to serve the political needs of the local community, legitimize the authority of the existing government, maintain the stability of political structure, promote awareness and movement of democracy, and facilitate the planned political developments and changes (Thomas, 1983). The growing awareness of international dependence reinforces the need for the contribution of school education to international understanding, global common interest, international coalitions, peace movements against war, and elimination of conflicts between regions and nations. It seems that schools' political effectiveness should also be important at the international level for the long term benefit of the world.

Cultural School Effectiveness. It refers to the extent to which the school can contribute to the cultural transmission and development at different levels of society. At the individual level, effective schools help students to develop their creativity and aesthetic awareness and to be socialized with the successful norms, values, and beliefs of society. At the institutional level, effective schools act as a place for systematic cultural transmission to and reproduction of the next generation, cultural integration among the multiple and diverse constituencies, and cultural re-vitalization from the outdated poor traditions. At the community and society levels, effective schools often serve as a cultural unit carrying the explicit norms and expectations of the local community, transmit all the important values and artifacts of the society to students, integrate the diverse sub-cultures from different background, and revitalize the strengths of the existing culture such that the society or the nation can reduce internal conflicts and wastage and build up a unifying force for national benefits. At the international level, effective schools can encourage appreciation of cultural diversity and acceptance of different norms, traditions, values, and beliefs in different countries and regions, and finally contribute to the development of global culture through integration of different cultures.

Education School Effectiveness. It refers to the extent to which the school can contribute to the development and maintenance of education at the different levels of society. Traditionally, education is often perceived as only a means for achieving the economic, social, political, and cultural values and goals. Due to the rapid development and change in nearly every aspect of the world, people begin to accept education in itself as an important value or goal. Education represents learning and development. Like economics, politics, culture, and social relationship, education becomes a necessary component of our life particularly in an era of great change and transformation. The content, system, and structure of education need to be developed and maintained. At the individual level, effective schools help students to learn how to learn and help teachers to learn how to teach and develop professionally. At the institutional level, effective schools serve as a place for systematic learning, teaching, and disseminating knowledge, and as a center for systematically experimenting and implementing educational changes and developments. At the community and society levels, effective schools provide service for different educational needs of the local community, facilitate developments of education professions and education structures, disseminate knowledge and information to the next generation, and contribute to the formation of a learning society. In order to encourage mutual understanding among nations and build up "a global family" for the younger generation, effective schools can contribute to the development of global education and international education exchange and cooperation.

Long-Term and Short-Term School Effectiveness

Taking the time span into consideration, school effectiveness may be further divided into two types: *long-term effectiveness* and *short-term effectiveness.* Long-term effectiveness refers to the contribution or effect of schools that happens and continues in a long time (e.g., more than a few years). These types of school effectiveness are often very important even though they may not be so obvious to people's perception. Short-term effectiveness refers to the contribution or effect of schools that occurs explicitly in a short time (e.g., a few months or less than a few years). In general, for each type of the technical/economic, human/social, political, cultural, educational school effectiveness, there may exist both long-term and short-term effectiveness even though short-term effectiveness may be often more easily identified and commonly emphasized at the individual level or the institutional level.

School Effectiveness and School Efficiency

Based on Lockheed (1988), we may differentiate school effectiveness from school efficiency in the following way (Cheng, 1993a):

When the discussion is mainly in terms of non-monetary inputs or processes (e.g., number of textbooks, classroom organization, professional training of teachers, teaching strategy, learning arrangements, etc.), the comparison of output function to non-monetary input (or process) may be called "*School Effectiveness*". If the discussion is mainly in terms of monetary input (e.g., 1000 dollars input per student, cost of books, salary, opportunity cost, etc.), then the comparison between school output function and monetary input may be called "*School Efficiency* ". With the consideration of the 5 types of school effectiveness at five levels, school efficiency may be similarly classified into 25 categories including technical/economic efficiency, human/social efficiency, political efficiency, cultural efficiency, and educational efficiency at the individual, institutional, community, society, and international levels. This classification helps to clarify what kind of effectiveness is under discussion.

Table 1 Multiple School Effectiveness at Multiple Levels

	Technical/ Economic School Effectiveness on	Human/ Social School Effectiveness on	Political School Effectiveness on	Cultural School Effectiveness on	Educational School Effectiveness on
Individual (students, staff, etc.)	• Knowledge & skills training • Career training • Job for staff	• Psychological developments • Social developments • Potential developments	• Development of civic attitudes and skills	• Acculturation • Socialization with values, norms, & beliefs	• Learning how to learn & develop • Learning how to teach & help • Professional development
Institutional	• As a life place • As a work place • As a service organization	• As a social entity/system • As a human relationship	• As a place for political socialization • As a political coalition • As a place for political discourse or criticism	• As a center for cultural transmission & reproduction • As a place for cultural re-vitalization & integration	• As a place for learning & teaching • As a center for disseminating knowledge • As a center for educational changes & developments
Community	• Serving the economic or instrumental needs of the community	• Serving the social needs of the community	• Serving the political needs of the community	• Serving the cultural needs of the community	• Serving the educational needs of the community
Society	• Provision of quality labor forces • Modification of economic behavior • Contribution to the manpower structure	• Social integration • Social mobility/ social class perpetuation • Social equality • Selection & allocation of human resources • Social development & change	• Political legitimization • Political structure maintenance & continuity • Democracy promotion • Facilitating political developments & reforms	• Cultural integration & continuity • Cultural reproduction • Production of cultural capital • Cultural revitalization	• Development of the education professions • Development of education structures • Dissemination of knowledge & information • Learning society
International	• International competition • Economic cooperation • International trade • Technology exchange • Earth protection • Sharing information	• Global village • International friendship • Social cooperation • International exchanges • Elimination of national /regional /racial /gender biases	• International coalition • International understanding • Peace/ against war • Common interests • Elimination of conflicts	• Appreciation of cultural diversity • Cultural acceptance across countries/regions • Development of global culture	• Development of global education • International education exchanges & cooperation • Education for the whole world

Conceptual Possibilities from the School Effectiveness Typology

From the above typology of school effectiveness/ efficiency, the conceptual possibilities of monitoring school effectiveness can be summarized in a matrix as shown in Figure 1. The use of this matrix in conceptualizing monitoring can be explained as follows:

1. What Effectiveness Type to be Monitored: No matter whether at the school level or the system level, the practitioners or stakeholders should first clarify what type of school effectiveness will be monitored among technical, human, political, cultural, and educational school effectiveness;

2. What Effectiveness Level to be Monitored: There are five levels of school effectiveness from the individual level to international level. Even though people often focus on monitoring effectiveness at the individual and institutional levels, recently policy-makers are more concerned with the effectiveness at the society and international levels particularly facing international competitions in economic and political developments. Therefore, the stakeholders should identify at what level school effectiveness will be monitored ?

3. What Effectiveness Time Frame to be Monitored: As discussed above, school effectiveness may be divided into short-term and long-term effectiveness. The monitoring methods of these two types of effectiveness may be very different. Traditionally, people pay attention only to the short-term school effectiveness because it is more explicit and easy to be monitored. Obviously, it is not sufficient to current growing up concern with the contribution of school education to the long-term developments from individual to international levels. The practitioners of monitoring school effectiveness have to decide what effectiveness time frame should be appropriate in practice.

4. Either Effectiveness or Efficiency to be Monitored: The practitioners should decide whether the monitoring focuses on either school effectiveness or school efficiency. The implications from findings of monitoring would be very different to policy making particularly at the system level if the focus of monitoring is different.

5. Conceptualization Strategies: According to the above considerations, we may propose the following strategies to conceptualize monitoring school effectiveness:

1. **The single type and single level strategy**: This strategy is very simple with the conception focusing on a certain type of school effectiveness at a certain level. For example, to study the influence of school on students' learning mathematics. This strategy is often used in the traditional monitoring because it costs less and it is easier to carry out.

2. **The single type and multi-level strategy**: The focus of this strategy lies on a particular type of school effectiveness (e.g., economic or political effectiveness), but involves two or more levels (e.g., individual, institutional, community and societal level). Comparing to the single type and single level strategy, this strategy is more complex, and may have the chance to monitor the inter-level

relationships. The findings may be useful to understand how a certain schoc effect can be perpetuated from one level to other levels.

3. **The multi-type and single level strategy**: This strategy puts its focus on mor than one type of school effectiveness and their inter-relationships (e.g., to stud school's technical effectiveness, political effectiveness and cultura effectiveness, and their inter-relationships) at a particular level (e.g. at individua level). This strategy can provide the opportunities to understand whether on type of school effectiveness is congruent or conflicting with other types anc identify what approach would be used to manage the different school function and enhance their effectiveness.

4. **The multi-type and multi-level strategy**: The focus of this strategy includes multi-categories and multi-levels of school effectiveness. Obviously, it is more comprehensive and sophisticated than the above strategies. It can provide opportunities to understand how different categories of school effectiveness are related and how school effectiveness varies across different levels. The findings may have more powerful and sophisticated implications for educational reforms, school management, and educational practice to ensure congruence between school functions across and maximize multiple categories of school effectiveness. Of course, more resources and time will be needed and the research design will be more complicated for this strategy.

5. **The including time frame strategy:** Since time frame can be included in monitoring school effectiveness, short-term and long-term consideration can be added into the above four strategies. In other words, each of the above strategies can be further divided into short-term and long-term considerations. For example, the single-cell and single level strategy.

6. **The efficiency consideration strategy:** If monitoring school effectiveness involves the consideration of monetary input, the concept of school efficiency should be more convenient and therefore, strategies 1 to 4 can be used in terms of school efficiency in monitoring.

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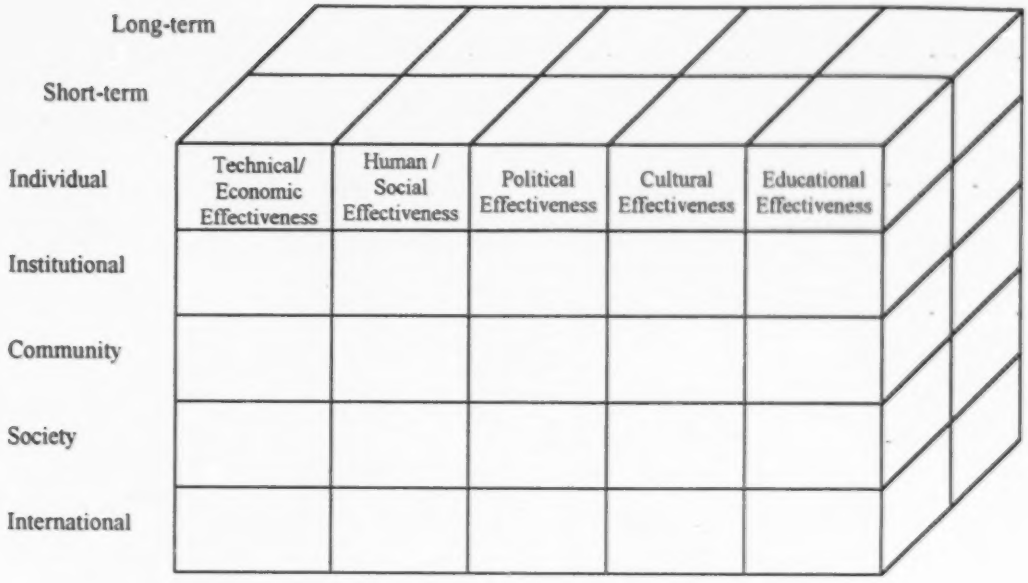
Figure 1

Conceptual Possibilities from the School Effectiveness Typology



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Conceptual Dilemmas from Multiple Effectiveness

Different Constituencies. To different people or constituencies, the expectations of school effectiveness are often different. Some people may be more concerned with the technical and economic effectiveness but others with the political effectiveness. Some people may pay attention to the effectiveness at the individual levels but others may focus more on the functions at the community level or society level. Even though in the past years school effectiveness at the international level might not attract much attention, there seems to be a growing concern about it in recent years (Beare & Slaughter, 1993).

Different Disciplines. To different academic disciplines, the emphasis on types and levels of school effectiveness may be different too. For example, school effectiveness at the individual level may receive more attention in educational psychology. For sociology of education, school effectiveness at the society level, particularly those related to social mobility, equality and class stratification, may attract more concern. Obviously, economics of education often focuses on the economic effectiveness at different levels. In the field of school management or organizational behavior, school effectiveness at the institutional level are inevitably the major topic of study. Obviously different academic disciplines have different foci when monitoring school effectiveness.

Drawbacks from Narrow Conceptions. Based on different beliefs and emphases on the types of school effectiveness, different strategies or policies are usually proposed for school management and improvement. Traditionally, people often focus narrowly on a few categories of school effectiveness such as technical effectiveness and social effectiveness at the individual levels and ignore the other categories. The ignorance of a wide spectrum of school effectiveness inevitably sets a tight limit to policy-making and management effort for school improvement, and the situation that attend to one and neglect the other will often happen. Therefore, it is not a surprise that an educational reform policy mainly based on the beliefs about technical effectiveness at the individual level cannot improve the cultural or social effectiveness at the individual level or other levels.

Complicated Relationship between Different Types of School Effectiveness. It is important to point out that the relationship between the five types of school effectiveness, between the five levels of school effectiveness, and even between effectiveness and efficiency may be very complicated, and not necessarily positive. A school's high technical effectiveness at the individual level does not necessarily promise high technical effectiveness or social effectiveness at the society level, although people often assume the existence of such a positive relationship (Grosin, 1994). For example, the success of some technical training in school does not imply high productivity for the society if these skills learned in school are found to be outdated (or useless) in students' later career life. Furthermore, many studies from radical perspectives challenge the traditional belief of schools' "positive" functions on social equalization by pointing out that schools do not promote social equality, they carry on the inequality of social class on the contrary (Blackledge & Hunt, 1985; Cheng, 1995b). Therefore even though schools have higher technical effectiveness at the institutional level, they do not necessarily have the effectiveness of promoting social equality as expected. To a great extent, the relationship between technical effectiveness and social effectiveness or cultural effectiveness is very controversial in the field of sociology of education. Also, the relationship between technical effectiveness and technical efficiency

may not be simple. It is often a hot topic for research in the field of economics of education (Cheng & Ng, 1992; Psacharopoulos, 1987).

In general, a school high in a few of the 25 categories (5 types and 5 levels) of effectiveness may not be high, too, in the other categories. Furthermore, enhancement of one type of school effectiveness does not necessarily promise increase in the other four types. Similarly, increasing school effectiveness at one level does not certainly result in improvement of effectiveness at the other levels. This is a critical issue and dilemma in current implementation of monitoring school effectiveness. More research is needed to explore this issue if we want to understand the complicated relationship between different types of school effectiveness (Cheng, 1996b).

Conceptual Possibilities & Dilemmas: From Multi-Models

Even though there are five types of school effectiveness at five different levels, models used by school practitioners to conceptualize, manage and achieve school effectiveness at the school-based level (organizational level) may be very different, including the goal model, resource-input model, process model, satisfaction model, legitimacy model, organizational model, ineffectiveness model, and total management model (Cheng, 1996a). The basic characteristics of the models are summarized in Table 2. Each model represents a conceptual possibility for monitoring school effectiveness and it has a different set of school-based indicators of effectiveness.

Table 2. . Models of School Effectiveness at the Site-Level

	Conception of School Effectiveness	Conditions for Model Usefulness	Evaluation Indicators/ Key Areas (e.g.)
Goal Model	• Achievement of stated goals	• Goals are clear, consensual, time-bound, & measurable; Resources are sufficient	• Objectives listed in the school/program plans, e.g. achievements
Resource-Input Model	• Achievement of needed resources & inputs	• There is a clear relationship between inputs & outputs; Resources are scarce	• Resources procured, e.g. quality of student intake, facilities, financial support, etc.
Process Model	• Smooth & "healthy" internal process	• There is a clear relationship between process & outcome	• Leadership, communication, participation, coordination, social interaction, etc.
Satisfaction Model	• Satisfaction of all powerful constituencies	• The demands of the constituencies are compatible & cannot be ignored	• Satisfaction of Education Authorities, management board, administrators, teachers, parents, students, etc.
Legitimacy Model	• Successful legitimate or marketing activities for school survival	• The survival & demise among schools must be assessed	• Public relations, marketing, public image, reputation, status in the community, accountability, etc.
Ineffectiveness Model	• Absence of characteristics of ineffectiveness in school	• There is no consensual criteria of effectiveness but strategies for school improvement are needed	• Existing conflicts, dysfunctions, difficulties, defects, weaknesses, etc.
Organizational Learning Model	• Adaptation to environmental changes & internal barriers	• Schools are new or changing; the environmental changes cannot be ignored	• Awareness of external needs & changes, internal process monitoring, program evaluation, development planning
Total Quality Management Model	• Total management of internal people & process to meet strategic constituencies' needs	• The constituencies' needs are compatible; the technology & resource are available for total management	• Leadership, people management, strategic planning, process management, quality results, constituencies' satisfaction, impact on society, etc.

The Goal Model

The goal model is very often used in evaluating school performance or studying school effectiveness. The model assumes that there are clearly stated and generally accepted goals for measuring school effectiveness, and that a school is effective if it can accomplish its stated goals with given inputs. This model is useful if the school outcomes are clear and the effectiveness criteria commonly accepted by all involved constituencies are available. The indicators of school effectiveness are often objectives listed in school plans and program plans, particularly those related to quality of learning and teaching environment, and academic achievements in the public examinations, etc. The usefulness of the model is often limited because it depends on the clear, measurable, time-bound, and all accepted goals that are often impossible. For example, teachers may be more concerned with students' development of character and personality but parents more concerned with students' examination achievements. Employers may emphasize those job-related attitudes and skills of students and policy-makers may be more concerned with school contribution to political stability or economic growth. It would be important to include a comprehensive set of school goals and objectives when the goal model is used to assess school effectiveness. But given the limited resources, it is often very difficult for schools to achieve multiple goals in a short time (Cameron, 1978; Hall,1987). Inevitably, dilemmas exist in maximizing effectiveness on the multiple goals with limited resources.

The Resource-Input Model

Due to the existing pressure of different expectations of multiple powerful constituencies, schools often need to pursue multiple but often inconsistent goals. Resources become the critical element in school functioning. The resource-input model assumes that more scarce and valued resources input are needed for schools to be more effective. A school is effective if it can acquire its needed resources. Therefore, inputs and acquisition of resources become the primary criteria of effectiveness (Etzioni, 1969; Yuchtman & Seashore, 1967). Quality of student intake, facilities, resources, and financial support procured from the central education authority, alumni, parents, sponsoring body or any outside agents are important indicators of effectiveness. This model is useful if the connections between inputs and outputs are clear (Cameron, 1984) and the resources are very limited for the school to achieve goals. Attraction of high quality student input is often assumed as a "necessary" condition for some schools to become effective or achieve high academic performance in public examinations. Obviously, this model has its defects because its over-emphasis on acquisition of inputs may reduce the school's effort put to educational processes and outputs. The acquired resources may become wastage if they cannot be used efficiently to serve school functions.

The Process Model

From a system perspective, school inputs are converted into school performance and output through a transformational process in school. The nature and quality of school process often determine the quality of output and the degree to which the school goals can be achieved. Particularly in education, experience in the school process is often taken as a form of educational aims and outcomes. Therefore, the

process model assumes that a school is effective if its internal functioning is smooth and "healthy". Leadership, communication channels, participation, coordination, adaptability, planning, decision-making, social interactions, school climate, teaching methods, classroom management, and learning strategies are often used as indicators of effectiveness. School process in general includes management process, teaching process, and learning process. Thus the selection of indicators may be based on these processes, classified as management effectiveness indicators (e.g. leadership, decision-making), teaching effectiveness indicators (e.g. teaching efficacy, teaching methods), and learning effectiveness indicators (e.g. learning attitudes, attendance rate). If there is a clear relationship between school process and educational outcomes, this model should be useful. To a certain extent, the current emphasis on leadership and school culture to school effectiveness may reflect the importance of the process model (Caldwell & Spinks, 1992; Cheng, 1994; Sergiovanni, 1984). The process model has its limitations, such as difficulty in monitoring processes and gathering related data, and the focus on means instead of ends (Cameron, 1978).

The Satisfaction Model

Recently, there is a strong emphasis on quality in school education. The concept of quality is in fact closely related to the satisfaction of clients'(or customers', constituencies') needs or the conformance to clients' requirements and expectations (Crosby, 1979; Tenner & Detoro, 1992). From this point, the recent demands for education quality reinforce the use of constituencies' satisfaction in explaining and assessing school effectiveness. The satisfaction model defines that a school is effective if all its strategic constituencies are at least minimally satisfied. It assumes that the functioning and survival of a school are under the influence of its strategic constituencies (e.g.,principal, teachers, school management board, education authority, parents, students and the public), and school actions are mainly reactive to the demands of the strategic constituencies. Therefore, satisfaction of these demands is the basic criterion for school effectiveness (Keeley, 1984; Zammuto, 1982, 1984). If the demands of all the powerful constituencies are compatible and the school has to respond to these demands, this model may be useful in studying school effectiveness. The indicators of effectiveness are often the satisfaction of students, teachers, parents, administrators, education authority, school management committee, or alumni, etc.

If the demands of powerful constituencies conflict and cannot be satisfied at the same time, the model may not be appropriate. Recently, due to the drastic society developments and serious international competition, more people become the strategic constituencies of schools and more parties have different interests in school functions. The expectations of these multiple powerful constituencies are often high, diverse, and even inconsistent. It is obviously difficult for schools to satisfy all these needs and expectations in a short time when the resources available for schools are so limited.

The Legitimacy Model

In current competitive education environment, schools have to compete seriously for resources and overcome internal barriers and face the external challenges and demands for accountability and "value for money" (Education & Manpower Branch

and Education Department, 1991; Education Commission, 1994). In order to gain the legitimacy for resources and survival, schools have to show evidence of accountability, satisfy the requirements of the community, and win the support of important constituencies. Along this line of thinking, the legitimate model suggests that a school is effective if it can survive as a result of engaging in legitimate or marketing activities. It assumes that schools "strive for legitimacy with the external public in order to enhance their longevity and avoid being selected out of the environment" (Cameron, 1984, p.278). Therefore, the indicators of effectiveness are often related to the activities and achievements of public relations and marketing, accountability, school public image, reputation, or status in the community, etc. The model is useful when the survival and demise among schools must be assessed in a changing environment. The current emphasis on parental choice and accountability in educational reforms in both Western and Eastern societies seem to support the importance of the legitimacy model in assessing school effectiveness. Even though there is strong interest in using market mechanism and accountability system to enhance school effectiveness in current worldwide education reforms, the knowledge of their relationship to the full spectrum of school functions and effectiveness is still underdeveloped. Therefore, we should pay attention to the potential limitations of this legitimacy model when using it in educational reforms.

The Ineffectiveness Model

The model assumes that it is easier for the concerned school constituencies to identify and agree on criteria of school ineffectiveness than criteria of school effectiveness. Also identifying strategies for improving school effectiveness can be more precisely done by analyzing school ineffectiveness as opposed to school effectiveness. Therefore, this model is useful particularly when the criteria of school effectiveness are really unclear but the strategies for school improvement are needed. The indicators of ineffectiveness may include existing conflicts, problems, difficulties, defects, weaknesses, and poor performance. In general, many schools, particularly those new schools, are more concerned with overcoming obstacles to basic school effectiveness than pursuing excellent school performance. This model may be appropriate to them. For those practitioners such as school administrators and teachers, the ineffectiveness model may be more basic than the other models. It seems that "no ineffectiveness" may be the basic requirement for effectiveness. But if people are more interested in high school performance, this model is not sufficient.

The Organizational Learning Model

Since the education environment is changing quickly, there seems no static factor or single practice that contributes to school effectiveness forever. Therefore, how to deal with the environmental impacts and internal process problems is the key question in determining a school's effectiveness. The organizational learning model assumes that the impact of environmental changes and the existence of internal barriers to school functioning are inevitable and therefore, a school is effective if it can learn how to make improvement and adaptation to its environment. Whether the school and its members (particularly, the administrators and teachers) can learn to deal with the

change and reduce the internal hindrance is very important (Argyris, 1982; Argyris & Schon, 1978; Levitt & March, 1988; Louis, 1994; Lundberg, 1989). The line of thinking supports the current emphasis of strategic management and development planning in school (Dempster et al. 1993; Hargreaves & Hopkins, 1991). The model is particularly useful when schools are developing or involved in educational reform particularly in a changing external environment. The indicators of school effectiveness may include awareness of community needs and changes, internal process monitoring, program evaluation, environmental analysis, and development planning, etc. Obviously, the usefulness of this model will be limited if the connection between organizational learning process and school outcomes is not clear. For example, some old schools have a tradition of prestige that can attract high quality student input. Even though they may lack organizational learning, they can still win relatively high student achievement and high school status.

The Total Quality Management Model

Recently there is a rapidly growing emphasis on education quality (Cheng, 1995a; Education Commission, 1994; Hughes, 1988). The concepts and practices of total quality management in schools are believed to be a powerful tool to enhance education quality and increase school effectiveness (Bradley, 1993; Cuttance, 1994; Greenwood & Gaunt, 1994; Murgatroyd & Colin, 1993). This model assumes that for long-term success, quality performance, or effectiveness, total management of the internal environment and process to meet the customers' (or clients', strategic constituencies') needs is the key. The critical elements of total quality management in school include strategic constituencies' (e.g., parents, students, etc.) focus, continuous process improvement, and total involvement and empowerment of school members (Tenner & Detoro, 1992). According to the total management model, a school is effective if it can involve and empower all its members in school functioning, conduct continuous improvement in different aspects of the school process, and satisfy the requirements, needs, and expectations of the school's external and internal powerful constituencies even in a changing environment. To a great extent, the total quality management model of school effectiveness is an integration of the above models, particularly the organizational learning model, the satisfaction model, and the process model. According to the famous Malcolm Baldrige Award framework or the European Quality Award framework for total quality management, the key areas for assessing school effectiveness may include leadership, people management, process management, information and analysis, strategic quality planning, internal constituencies' satisfaction, external constituencies' satisfaction, operational results, students' educational results, and impacts on society (Fisher, 1994; George, 1992) . Compared with other models, the total quality management model provides a more holistic or comprehensive perspective to understanding and managing school effectiveness. If the strategic constituencies' needs and expectations are compatible and the technology and resources are available for such a full span of management in school, this model should be appropriate.

As discussed above, each of the eight models has its own strengths and limitations. In different situations and different time frames, different models may be useful for monitoring and managing school effectiveness. Comparatively, the

organizational learning model and the total quality management model seem to be more promising for achievement of multiple school functions at different levels.

Practical Possibilities and Dilemmas

In addition to the above conceptual issues, there are also some important practical possibilities and dilemmas in implementation of monitoring school effectiveness. Specifically, the design of types of evaluation, purposes of monitoring, and choices of effectiveness indicators is a key issue in practicing monitoring school effectiveness.

Functions of Effectiveness Indicators

The design of effectiveness indicators should serve the function of assessing and monitoring school effectiveness at the site level and at the system level. According to Nuttall (1990), good indicators at the site level or system level can provide at least one of the following types of information:

- Information that describes school performance at the site level and the system level in achieving desired educational conditions or results.
- Information about features of individual schools / the schools system known to be linked with desired conditions and outcomes. The information helps school members, policy-makers, educators, and the public to predict future performance of the school/the schools system;
- Information that describes enduring features of individual schools / the schools system. The information helps policy-makers and educators better understand how individual schools / the schools system works and to assess the implication of changes over time; and
- Information that is relevant to education policy. This information provides insight into current or potential problems in the school/ the schools system that are of particular concern to policy-makers or that are susceptible to change through action.

Specifically, the information provided by the indicators can be used to monitor school education at both the site level and the system level. At the school-site level, the information can be used to ensure school performance and effectiveness towards the planned school goals (functions) and education standards; can help the school to reflect school's environment, reconsider school's direction, re-establish policies, and re-plan action programs, and reorganize structures; can help individuals, groups, and the school to learn, improve, and develop; and can help the school to assure education quality and school accountability to the public, students, and parents. Similarly, the information can be used to ensure effectiveness of the schools system, re-plan and develop the schools system, and assure accountability of the schools system to the public.

Basically, the above functions of effectiveness indicators may be classified as two types:

- Formative Functions--for internal improvement and development and
- Summative Functions-- for accountability and assurance of education quality or cost-effectiveness.

Practical Possibilities for Monitoring School Effectiveness

From the above discussion, the assessment and monitoring of school effectiveness at the site-level or the system-level may involve the following basic considerations in practice:

- **The Choice of Indicators**: What kinds of indicators will be used ? Input indicators? Process or performance indicators? Outcome indicators ? Or the combination of these indicators ?

- **The Purposes**: For what functions the assessment and monitoring will be ? For internal improvement and development ? For accountability and quality assurance ? Or, for both of them?

- **The Agents/ Type of Evaluation**: Who will be responsible for the assessment and monitoring ? School self-evaluation (the school as the agent) ? External evaluation (by an independent agent) ? Or both of them ?

Based on these considerations, a matrix (the choice of indicators x the purpose x the type of evaluation) may be proposed, as shown in Figure 2, to explore the practical possibilities in monitoring school effectiveness. This matrix illustrates that there are three major approaches to monitoring school effectiveness:

The Cell Approach: It often uses only one cell or some separate cells of the matrix to formulate the assessment. For example, the assessment uses only school self-evaluation and input indicators, and serves the purpose of internal development (i.e. cell A of the matrix). This approach is simple and easy and may be commonly used in school evaluation. But the results from it are often biased and fragmented because of the lack of complete information about the whole school process and the ignorance of other important aspects. Therefore the implications for improvement, development, and accountability are very limited.

The Layer Approach: It uses one layer of the matrix to design the assessment and monitoring of education quality. Figure 3 provides two examples of the layers. The layer of example 1 suggests that the assessment of school effectiveness includes indicators of input, performance, and outcome, purposes for both internal development and accountability, and school self-evaluation but not external evaluation. The layer of example 2 proposes that the assessment covers school self-evaluation and external evaluation, serves purposes for both internal development and accountability, and uses performance indicators but not input and outcome indicators. The conception of assessment based on layer may be broader

than that on separate cell. The results and implications from this approach may not be so limited and biased as those from the cell approach.

The Whole Matrix Approach: The cell approach and the layer approach have strong limitations due to the ignorance of some important components in the matrix. Therefore the comprehensive way to assess and monitor school effectiveness at the site level or the system level should be based on the whole matrix including all the components of indicators, purposes, and agents. The results and implications from the whole matrix approach should be more comprehensive, reliable, and useful. The current emphasis on the whole school review or inspection including school self-evaluation and external audit, serving formative and summative functions, and using multiple indicators may reflect the importance of a whole matrix approach to successful assessment and monitoring of education quality (Queensland Department of Education, 1992; Education Commission, 1994; Scottish Office Education Department, 1991, 1992). Of course this approach may be more expensive and time consuming because it covers more components than the other two approaches.

Under the constraints of limited resources, inevitably there are still some basic dilemmas and issues in the use of the whole matrix approach to monitoring school effectiveness.

Practical Dilemmas in Monitoring School Effectiveness

Based on the proposed matrix, some critical dilemmas and issues can be illustrated as follows:

1. How to keep a balance between the two functions of monitoring school effectiveness? Even though we would like to ensure both school's internal development and accountability to the public through monitoring effectiveness, it is often difficult to maximize these two functions at the same time, particularly if the assessment is limited to one type of evaluation (say, self-evaluation) and one category of effectiveness indicator (say, input indicator). Over-emphasis on the accountability purpose often increases the tendency that the schools create self-defensive mechanism and subsequently this mechanism hinders school self learning and improvement. If we focus too much on school internal development and improvement but less on accountability assurance, those concerned may worry whether the schools are accountable and the educational services are worth the money invested. How to keep a balance between internal development and accountability in designing and implementing the monitoring of school effectiveness should be a critical issue.

Figure 2
A Matrix of Monitoring School Effectiveness

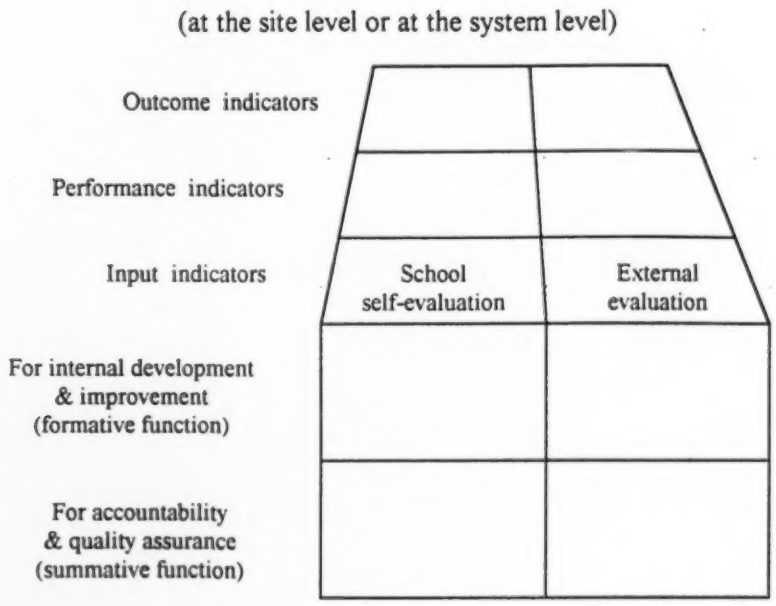
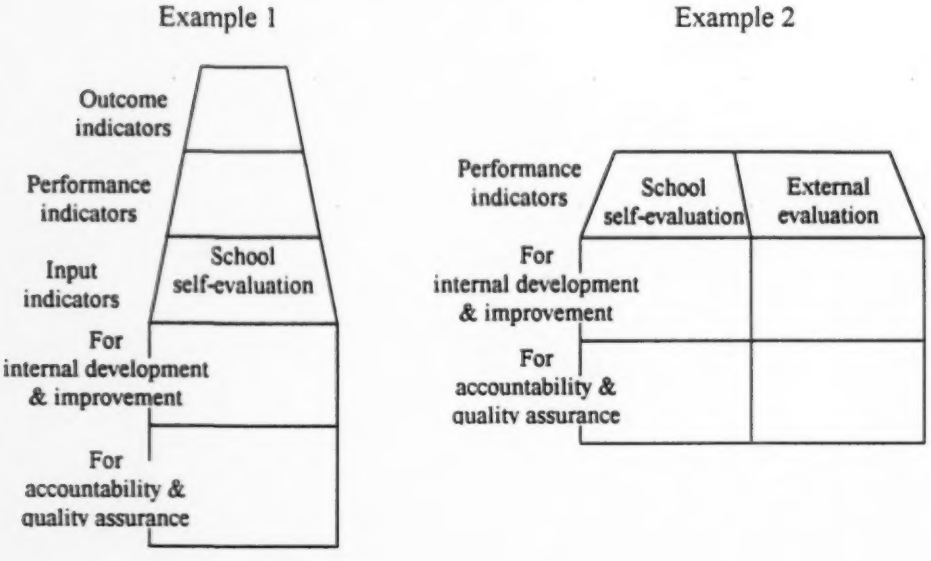

(at the site level or at the system level)
Outcome indicators
Performance indicators
Input indicators
School self-evaluation
External evaluation
For internal development & improvement (formative function)
For accountability & quality assurance (summative function)

Figure 3
Examples of Practical Possibilities



2. How to keep a balance between school self-evaluation and external evaluation ? In general, external evaluation by an outside or independent agent is believed to be more objective for the accountability purpose. Traditionally, it is conducted by the school inspection team of the Education Department of the Government. Since the Education Department is often the dominant educational service provider through numerous schools, some people believe that it may not be in the right position to assess independently and objectively the quality of educational service provided in schools.

Currently, there is a trend to establish an expert agent independent of the Education Department and schools to conduct external evaluation of the schools (Education Commission, 1994). No matter whether the external evaluation is conducted by the Education Department or an independent agent, it would involve a big number of inspectors and so would be very expensive if it is conducted in depth, covers a wide range of indicators, and samples an appropriately large number of schools. Furthermore, over-emphasis on external evaluation may limit the initiative of the schools and hinder their development. On the other hand, school self-evaluation is based on the schools' own initiative and resources and therefore less expensive. Also it is easier for the schools to be committed to it and can be better for internal improvement and development. Obviously, it may not be so convincing for accountability purpose because the information from self-evaluation may be biased by the evaluators themselves. To keep an appropriate balance between school self-evaluation and external evaluation is necessary in planning monitoring education quality. But how to do it?

3. How to choose an appropriate combination of indicators ? For different purposes and types of evaluation, different kinds of indicators may be used. For the accountability purpose, outcome indicators such as academic achievements, absence of behavioral problems, attendance rate, etc. are often strongly emphasized in monitoring. For the purpose of improvement and development of the school, staff, and students, performance or process indicators such as systematic planning, school climate, classroom environment, resource management, leadership, motivation, teaching process, learning process, etc. would be more important.

If we emphasize the external evaluation particularly for monitoring the whole school system, we tend to use the objective and quantitative indicators that are appropriate to nearly all the schools. But if we are concerned mainly with school self-evaluation, the set of indicators developed by one school may not be appropriate to the other. Even though people would like to include indicators as more comprehensive as possible in order to serve different purposes and types of evaluation, it is often difficult to include too many indicators because it will be very time-consuming and expensive particularly when the assessment involves many schools. Therefore, how to choose an appropriate combination of indicators of input, performance, and outcome to fit the needs of multiple purposes and different types of assessing and monitoring effectiveness inevitably becomes a critical question to be answered.

4. Who to make decision on choosing effectiveness indicators and performance standards ? The choice of effectiveness indicators and performance standards may reflect the values, education goals, and preferences of those concerned. Unfortunately, there are often very few indicators and standards commonly accepted by all those concerned. To different people, the choice may be very different. For example, to policy makers, the indicators of resources inputs and policy-related outcomes may be more important because these indicators are related to allocation of resources, efficiency, and accountability. To educators or teachers, the critical indicators should include process indicators particularly those related to the quality of teaching and learning process. To parents, the academic achievement outcomes may be the most necessary indicators of effectiveness.

The diversity of emphasis on indicators and standards may complicate and politicize the process of establishing a program of assessing and monitoring school effectiveness at the school-site level or at the system level. Based on different sets of indicators and standards, the directions and results of assessing and monitoring can be very different. Then, the implications to policy making, resources allocation, management responsibility, practice improvement, and accountability can be of great difference for all those concerned such as policy-makers, inspectors, school managers, principals, school administrators, teachers, parents, students and the community. Therefore, who are the right persons to make decision on the choice of indicators and standards is a controversial issue in planning assessment and monitoring of school effectiveness.

For the purpose of accountability to the public, the policy-makers and the Education Department often dominate the decisions, particularly at the school system level. From the perspective of school-based management (Cheng, 1993b), members at the site-level should have their right and responsibility to decide indicators and standards for their own schools, in order to facilitate internal improvement and development. But how these indicators and standards can be consistent with those decided for the system level is often controversial. As a form of compromise or flexibility, the policy-makers may establish a set of core and basic indicators and standards that all schools have to use and observe. In addition to this set, the schools may decide other indicators and standards for their own purposes. Also, the decision making at the school level should include the participation of all the strategic constituencies such as teachers, parents, alumni, and students in addition to the school administrators. Currently the encouragement of participation in school-based management and school review reflects this line of thinking (Cheng, 1993b; David, 1989; Queensland Department of Education, 1992)

5. How to manage the differences between the school-site level and the system level ? The assessment and monitoring of school effectiveness at the school-site level is often different from that at the school system level in terms of expected purpose, indicators, and types of evaluation to be used. The potential differences of assessing school effectiveness between the school-site level and the system level can be summarized as shown in Table 3.

At the system level, the purpose of monitoring may be mainly at ensuring accountability and cost-effectiveness, most of the indicators to be used may be related

to inputs and outcomes, and the type of evaluation to be adopted may be based on external evaluation. It is often difficult to use too many indicators particularly those qualitative process indicators because it will be expensive and time consuming in a large sample of schools. Also monitoring at the whole school system may not include the information from school self evaluation in order to eliminate the potential bias in self report. The set of indicators and standards is often developed by the policy makers or external agent. The indicators are standardized and can be applied to all the schools in the school system.

But at the school-site level, the purpose of monitoring may be focused on internal improvement and development, most of the indicators may be related to school process and outcomes, and the type of evaluation may be mainly school self-evaluation. The evaluation can cover a wide range of indicators including qualitative and quantitative indicators. The set of indicators and standards to be used is developed by schools themselves. The indicators are not necessarily standardized and can be varied across schools. The set of school-based indicators may include the core indicators and standards developed at the system level.

How to manage the above potential differences between the school-site level and the school system level is important for effective assessing and monitoring of school effectiveness at these two levels. Some people may suggest to reduce the differences and make the two levels nearly the same by (1) converting the characteristics of monitoring at the site level into those at the school system level or the reverse; or (2) integrating the characteristics of both the school-site level and the school system level and making them appropriate to both these two levels. The line of thinking ignores the uniqueness of monitoring at each level and assumes conversion without any loss in monitoring function and integration without any additional cost and technical problems in assessment. Of course, this assumption is not true. For example, the conversion may emphasize mainly either internal development or accountability but not both. If using integration, it is often very difficult to keep a balance between the two basic functions of monitoring at each level and also it will be very expensive and time-consuming due to the inclusion of too many indicators, as discussed above.

In order to serve the different purposes and fit the different conditions at these two levels, we should accept the potential differences and monitor school effectiveness at both levels. We can develop appropriate strategies to keep a balance between the levels and manage them to be mutually supplementary but not contradictory.

Clarifying the above issues is necessary for the development of a monitoring school effectiveness system. To a great extent, the current school-based management movements such as "Victoria Schools of the Future" of Australia (Directorate of School Education, 1994) and "School Management Initiative" of Hong Kong (Education & Manpower Branch and Education Department, 1991) can contribute to solving the above issues of monitoring and enhancing school effectiveness.

Table 3
Difference in Monitoring Effectiveness between the School-Site Level and the System Level

	The School-Site Level	The School System Level
Purpose of Monitoring:	• Mainly for Internal Improvement & Development	• Mainly for Accountability & Cost- Effectiveness
Type of Evaluation:	• Based on School Self-Evaluation by School Members	• Based on External Evaluation by Outside Agent
Nature of Indicators:	• Mainly Process & Outcome Indicators • Both Qualitative & Quantitative • Both Objective & Subjective(Affective) • Fit for the School, Not Necessarily Standardized • Developed by School Members, May include those Core Indicators at the System Level	• Mainly Input & Outcome Indicators • Mainly Quantitative • Mainly Objective • Fit for all Schools in the System, Standardized • Developed by Education Department or an Outside Agent

Conclusion

In the new century, schools have different explicit or implicit functions to serve the emerging needs at the individual, institutional, community, society, and international levels. The technical/ economic, human/social, political, cultural, and educational functions at five different levels suggest various conceptual possibilities as well as dilemmas in designing a framework for monitoring school effectiveness. Also the multi-models of managing school effectiveness at the school-level provide a spectrum of different conceptions and indicators for developing a framework of monitoring school effectiveness. The goal model, the resource-input model, the satisfaction model, the legitimacy model, the ineffectiveness model, the organizational model, and the total quality management model have their own strengths and weaknesses for evaluating and monitoring school effectiveness. If we are serious

about school effectiveness, the proposed conceptual possibilities and dilemmas suggest:

(1) a paradigm shift in monitoring school effectiveness from the simplistic conception with focus mainly on the technical effectiveness at the individual level or institutional level or the goal model to a wide spectrum of multiple school effectiveness or multiple models; and
(2) a careful consideration of conceptual dilemmas in handling the complicated relationships between different types of school effectiveness and using different models to conceptualize, evaluate, and manage school effectiveness at the school-site level.

In practicing monitoring school effectiveness, the choice of indicators, the purpose of monitoring, and the type of evaluation may suggest different practical possibilities as well as dilemmas. How to maximize the advantages and possibilities and handle the existing dilemmas should be a major concern in designing and implementing a framework of monitoring school effectiveness.

Hopefully, the considerations and implications proposed in this paper are useful to current educational reforms not only in Hong Kong but also in different parts of the world.

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